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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/584,791

06/28/2006

Harry Coles

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EXAMINER

DUONG, THOI V

ART UNIT

PAPER NUMBER

2871

NOTIFICATION DATE

DELIVERY MODE

05/11/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patents.admin@dowcorning.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/584,791	<b>Applicant(s)</b> COLES ET AL.	
	<b>Examiner</b> THOI V. DUONG	<b>Art Unit</b> 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 6/28/2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14 is/are allowed.
- 6) ☒ Claim(s) 1,2,5,7,9-13 and 16 is/are rejected.
- 7) ☒ Claim(s) 3,4,6,8 and 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/28/06</u> .   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This office action is in response to the Preliminary Amendment filed June 28, 2006.

Accordingly, claims 3-9 and 12-15 were amended, and new claim 16 was added. Currently, claims 1-16 are pending in this application.

### ***Claim Objections***

2. Claim 3 is objected to because of the following informalities: claim 3 should be dependent on claim 2. Appropriate correction is required.

3. Claim 8 is objected to because of the following informalities: claim 8 should be dependent on claim 6. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1, 2, 5, 7, 9-13 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Ionescu (US 7,041,348 B2).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Re claim 1, Ionescu discloses a blue phase liquid crystalline material comprising a mixture comprising at least one bimesogenic compound and at least one chiral compound (col. 14, claims 1 and 2).

Re claims 10-12 and 16, Ionescu also discloses a process for the preparation of a blue phase liquid crystalline material comprising cooling a mixture of at least one bimesogenic compound and at least one chiral compound (a bimesogenic chiral compound) from the isotropic state, wherein a blue phase liquid crystalline material is produced by the process (col. 13, Table 2 and col. 14, claims 1 and 2).

Since the prior art teaches the identical chemical structure, the properties applicant discloses and claims are necessarily present (see MPEP 2112.01). Accordingly, it is inherent that the material is capable of stable existence in the blue phase over a temperature range of at least 5°C.

Re claim 9, it is also inherent that the material is capable of stable existence in the blue phase over a temperature range of at least 35°C and which is capable of stable existence in the blue phase at a temperature below 35°C.

Re claim 2, the mixture comprises at least two binogenic nematic compounds and at least one chiral compound (col. 1, lines 52-61 and col. 5, line 1 through col. 6, line 64).

Re claim 5, the chiral compound is a chiral nematic compound (col. 2, lines 61-63).

Re claim 7, the chiral compound forms 0.1% to 5% by weight of the liquid crystalline material (col. 8, lines 12-14), which meets the claimed range of 1% to 10%.

Re claim 13, Ionescu discloses an optical device comprising a layer of a blue phase liquid crystalline material according to claim 1 enclosed between opposed carrier plates (pair of substrates with electrodes), and an AC voltage operationally connected to the carrier plates (col. 1, lines 62-65; col. 5, lines 1-27; and col. 8, lines 55-58).

Although Ionescu does not disclose a light source positioned to impinge a beam of light onto the layer of blue phase liquid crystalline material in a direction substantially normal to the plates, it is inherent that the light source is to be employed for displaying images.

#### ***Allowable Subject Matter***

6. Claims 3, 4, 6, 8 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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7. Claim 14 is allowed.

The following is an examiner's statement of reasons for allowance: none of the prior art of record fairly suggests or shows all of the limitations as claimed.

Specifically, none of the prior art of record discloses, in combination with other limitations as claimed, a process of mirrorless lasing comprising subjecting a blue phase liquid crystalline material to high energy pulsed radiation at a wavelength in the visible spectrum, wherein the blue phase liquid crystalline material comprising a mixture comprising at least one bimesogenic compound and at least one chiral compound, wherein the material is capable of stable existence in the blue phase over a temperature range of at least 5°C.

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (571) 272-2292. The examiner can normally be reached on Monday-Friday from 8:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms, can be reached at (571) 272-1787.

/Thoi V. Duong/ - Primary Examiner

May 03, 2009